

AMENDMENTS TO THE CLAIMS:

Applicant amends claims 1, 9, 18, and 19, and cancels claims 2-8 and 10-13, as detailed below. This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A three-dimensional image display device comprising:

a two-dimensional image display screen having color filters in which each color is disposed on sub-pixels obtained by dividing one pixel in a vertical direction and same color is disposed on each column of sub-pixels;

an optical plate having an exit pupil, the exit pupil being provided for making a viewing zone different for each pixel and having a longitudinal axis disposed ~~[[as]]~~ to be inclined from a vertical direction of the two-dimensional image display screen at a non-zero angle between -45° and 45° degree (θ) ($\theta \neq 0$, $-45^\circ < \theta < 45^\circ$), the viewing zone being a region in which parallax information displayed on the two-dimensional image display screen is observed, the parallax information being presented in a horizontal direction of the two-dimensional image display screen; and

a viewing position displacement detecting unit that detects a viewing position displacement amount in the vertical direction of the two-dimensional image display screen, the viewing position displacement amount being a displacement amount between a viewing position on which a three-dimensional image displayed on the three-dimensional image display device is to be observed and an actual position of an observer;

a viewing zone shift amount determining unit that determines a shift amount of the parallax information in the vertical direction based on the viewing position displacement amount; and

a viewing zone adjusting unit that ~~adjusts the viewing zone by shifting the viewing zone in a horizontal direction of the two-dimensional image display screen by shifting~~ shifts the

parallax information disposed on each pixel of the two-dimensional image display screen in the vertical direction by the shift amount ~~pixel~~.

2-8. (Cancelled)

9. (Currently Amended) The three-dimensional image display device according to claim 1 [[8]], further comprising:

the viewing position holding unit that holds the viewing position, wherein

the viewing position displacement detecting unit recognizes a position of the observer by image recognition, and detects a difference value between the recognized position of the observer and the viewing position held by the viewing position holding unit as the viewing position displacement amount.

10-13. (Cancelled)

14. (Original) The three-dimensional image display device according to claim 1, further comprising a surplus portion processing unit that disposes the parallax information on a pixel, which is located on the two-dimensional display screen and on which the parallax information is not disposed after the shift of the parallax information.

15. (Original) The three-dimensional image display device according to claim 1, further comprising a surplus portion processing unit that disposes a black image on a pixel, which is located on the two-dimensional display screen and on which the parallax information is not disposed after the shift of the parallax information.

16. (Original) The three-dimensional image display device according to claim 1, further comprising:

a parallax information holding unit that holds the parallax information, a size of which is larger than a size of the two-dimensional image display screen, wherein

the two-dimensional image display screen displays the parallax information held by the parallax information holding unit.

17. (Original) The three-dimensional image display device according to claim 16, further comprising

a parallax information preparing unit that prepares the parallax information, the size of which is larger than the size of the two-dimensional image display screen, wherein

the parallax information holding unit holds the parallax information prepared by the parallax information preparing unit.

18. (Currently Amended) A method of displaying a three-dimensional image comprising:
in a three-dimensional image display device including

a two-dimensional image display screen having color filters in which each color is disposed on sub-pixels obtained by dividing one pixel in a vertical direction and same color is disposed on each column of sub-pixels, and

an optical plate having an exit pupil, the exit pupil being provided for making a viewing zone different for each pixel and having a longitudinal axis disposed ~~[[as]]~~ to be inclined from a vertical direction of the two-dimensional image display screen at a non-zero angle between -45° and 45° ~~degree (0) (0 ≠ 0, -45° < 0 < 45°)~~, the viewing zone being a region in which parallax information displayed on the two-dimensional image display

screen is observed, the parallax information being presented in a horizontal direction of the two-dimensional image display screen,
detecting a viewing position displacement amount in the vertical direction of the two-dimensional image display screen, the viewing position displacement amount being a displacement amount between a viewing position on which a three-dimensional image displayed on the three-dimensional image display device is to be observed and an actual position of an observer;

determining a shift amount of the parallax information in the vertical direction based on the viewing position displacement amount; and

~~shifting the viewing zone in a horizontal direction of the two-dimensional image display screen by shifting the parallax information disposed on each pixel of the two-dimensional image display screen in the vertical direction by the shift amount~~ pixel.

19. (Currently Amended) A computer program product having a computer readable medium including programmed instructions, wherein the instructions, when executed by a computer, cause the computer to perform:

in a three-dimensional image display device including

a two-dimensional image display screen having color filters in which each color is disposed on sub-pixels obtained by dividing one pixel in a vertical direction and same color is disposed on each column of sub-pixels, and

an optical plate having an exit pupil, the exit pupil being provided for making a viewing zone different for each pixel and having a longitudinal axis disposed ~~[[as]]~~ to be inclined from a vertical direction of the two-dimensional image display screen at a non-zero angle between -45° and 45° degree (θ) ($\theta \neq 0$, $-45^\circ < \theta < 45^\circ$), the viewing zone being

a region in which parallax information displayed on the two-dimensional image display screen is observed, the parallax information being presented in a horizontal direction of the two-dimensional image display screen,

detecting a viewing position displacement amount in the vertical direction of the two-dimensional image display screen, the viewing position displacement amount being a displacement amount between a viewing position on which a three-dimensional image displayed on the three-dimensional image display device is to be observed and an actual position of an observer;

determining a shift amount of the parallax information in the vertical direction based on the viewing position displacement amount; and

~~shifting the viewing zone in a horizontal direction of the two-dimensional image display screen by~~ shifting the parallax information disposed on each pixel of the two-dimensional image display screen in the vertical direction by the shift amount ~~pixel~~.